AQUIFER PROTECTION AMENDMENTS 2010

PROPOSED GROUNDWATER AMENDMENT TO THE BUILDING & LAND USE ORDINANCE FOR CONSIDERATION AT TOWN MEETING, APRIL 7, 2010

(Note: Bold type signifies language NOT presently in the BLUO ordinace.)

SECTION 3, G. GENERAL REQUIREMENTS, GROUNDWATER.

Groundwater, whether from the sand and gravel aquifer or from bedrock fractures, is a vital community resource and is currently the sole source of all drinking water in Lamoine. This ordinance endeavors to protect both the quality and quantity of this resource.

The applicant will provide sufficient evidence to the Board that the proposed use will not contaminate the quality of groundwater or threaten the quantity of uncontaminated groundwater available to other residents and land owners in the Town of Lamoine. Among uses subject to the requirements of this section are:

a. **Tanks buried below the earth containing petroleum and other refined petroleum products.**
b. **All petroleum and hazardous chemical storage for commercial or industrial uses.**
c. **Engineered subsurface waste disposal systems as defined in Section 17 (definitions) unless the system is certified and approved by the State of Maine.**
d. **Septic systems serving three or more residential units unless the system is certified and approved by the State of Maine.**
e. **Commercial or Industrial uses not home occupations.**
f. **Salt/sand storage and loading areas.**
g. **Dumping of snow containing deicing chemicals.**
h. **Junkyards and automobile graveyards.**
i. **Sanitary landfills or demolition/stump dumps.**
j. **Commercial animal feed lots.**
k. **Metal plating.**
l. **Commercial motor vehicle repair or service.**
m. **Non-residential pipelines – oil, gas, hazardous materials.**
n. **Spray irrigation of sewerage.**
o. **Manufacture, storage, use, transportation or disposal of toxic or hazardous materials.**
p. **Mining operations**
q. **Sand and gravel extraction**
r. **Any use listed in Section 4, Table of Land Uses, of this Ordinance which, in the Planning Board's judgment, may create a threat similar to the threats posed in a. through q. above.**

When a proposed plan lacks sufficient information to enable the Planning Board to determine its impact on the quantity and/or quality of groundwater, the Planning Board shall require the applicant *to* submit a study by a certified professional hydrogeologist or registered professional engineer which shall evaluate the following (1 through 10 below) with respect to the proposed operation or use for which a permit is sought. The study shall provide sufficient detail to allow the Planning Board to determine whether the proposal creates a risk to Lamoine drinking water and, if so, whether that risk can be adequately contained.

Furthermore, the Planning Board may require an independent evaluation in addition to that submitted by the applicant. This evaluation shall be done by a certified professional hydrogeologist or registered professional engineer of the Board's choosing. The hydrogeologist or engineer selected shall be required to estimate the cost of this evaluation and the applicant shall pay the Town of Lamoine the full estimated cost. At the completion of the review, any balance due shall be paid to the Town or any balance remaining shall be returned to the applicant.

The study must include:

1. **A listing of all petroleum products, chemicals and agents to be used in the proposed operation..**
2. **The quantity of each such petroleum products, chemicals or agents to be used in a month.**
3. **Provisions for storage of the petroleum products, chemicals or agents before use.**
4. **The way in which the chemicals or agents will be used in the proposed operation.**
5. **The method of disposal of the chemicals or agents or any residue resulting from their use and provisions for storage prior to disposal.**
6. **Proposed containment structures or procedures for preventing escape of petroleum products, chemicals or agents.**
7. **The nature of any risk of escape from containment.**
8. **The potential damage to groundwater from an escape from containment.**
9. **Any set of regulations, standards or industry norms relating to the storage, use or disposal of the petroleum products, chemicals or agents which are directly applicable to the proposed use or represent industry or other "best use" standards. The required study shall contain citations to all regulations and standards of industry norms discussed.**
10. **A monitoring plan appropriate to the proposed project in sufficient detail to permit establishment of existing groundwater quality conditions (baseline) and continued assessment of threats to drinking water from the proposed project.**

SECTION 15 D 1 c. WATER EXTRACTION FOR COMMERCIAL PURPOSES

Add a new Item **c**. as follows: (pg. 43)

c. Application procedures for commercial groundwater extraction

i. Applicants seeking a permit for a commercial use which will require the extraction of groundwater may be required, at the discretion of the Planning Board, to install a water meter and to record on a monthly basis the amount of water extracted and provide a written record of the same annually to the Code Enforcement Officer.

ii. Applicants seeking a permit for a commercial use which will require the extraction of groundwater in excess of 122,000 gallons in any month of a year must provide a written hydrogeological study

conducted by a certified professional hydrogeologist or registered professional engineer. Such a hydrogeological study shall include the following information:

(a) A map of the aquifer contributing to the spring(s), well(s) or excavations(s) from which water is to be extracted in sufficient detail to support a calculation of sustained yield during a drought of three consecutive months with a probability of occurrence of once in ten years, as well as an estimate of any potential interaction between this aquifer and adjacent aquifers.

(b) The aquifer characteristics, the rates of drawdown and recovery, the sustainable yearly and monthly (by month) extraction rates and the cone of depression which may develop about the proposed facility.

(c) Any other impacts on the water table in the contributing aquifer and any other private or public wells within 1,000 feet of the proposed extraction facilities.

(d) A monitoring plan appropriate to the proposed project in sufficient detail to permit establishment of existing groundwater quality conditions (baseline) and continued assessment of threats to the quality and quantity of potable water available in the affected aquifer and any aquifer adjacent to the proposed project.

See Section F 10 for Review Criteria for Water Extraction.

SECTION 15 E 2. WATER EXTRACTION FOR INDUSTRIAL PURPOSES. Existing text for "Application and permits:"remains the same but is to be labeled a. (Pg. 44) as follows:

2. Applications and permits:

a. Building permits issued for industrial structures shall be issued by the Board. Before any permit is approved, applicants must submit a pre application form for the structure, followed by a complete application. The Board shall issue a permit upon finding that the proposed structure and use as described in a complete pre-application and application, submitted according to the regulations of this ordinance, will meet the Review Criteria in Sections 15E and 15F.

b. Applicants seeking a permit for an industrial use which will require the extraction of groundwater may be required, at the discretion of the Planning Board, to install a water meter and to record on a monthly basis the amount of water extracted and provide a written record of the same annually to the Code Enforcement Officer.

c. Applicants seeking a permit for an industrial use which will require the extraction of groundwater in excess of 122,000 gallons in any month of a year must provide a written hydrogeological study conducted by a certified professional hydrogeologist or registered professional engineer. Such a hydrogeological study shall include the following information:

i. A map of the aquifer contributing to the spring(s), well(s) or excavations(s) from which water is to be extracted in sufficient detail to support a calculation of sustained

yield during a drought of three consecutive months with a probability of occurrence of once in ten years, as well as an estimate of any potential interaction between this aquifer and adjacent aquifers.

ii. **The aquifer characteristics, the rates of drawdown and recovery, the sustainable yearly and monthly (by month) extraction rates and the cone of depression which may develop about the proposed facility.**

iii. **Any other impacts on the water table in the contributing aquifer and any other private or public wells within 1,000 feet of the proposed extraction facilities.**

iv. **A monitoring plan appropriate to the proposed project in sufficient detail to permit establishment of existing groundwater quality conditions (baseline) and continued assessment of threats to the quality and quantity of potable water available in the affected aquifer and any aquifer adjacent to the proposed project.**

See Section F 10 for Review Criteria for Water Extraction.

SECTION 15 F 10. GROUNDWATER PROTECTION should read: pg 50

The plan shall meet all groundwater standards set forth in Section 12 J. All outdoor storage facilities for liquid fuel (containing 500 gallons or more) shall be located on impervious pavement and shall be completely enclosed by an approved safety fence at least six (6) feet in height. Such a fence shall be set on top of an impervious dike which shall be high enough to contain the total volume of liquid kept within the storage area, plus the rain falling into this storage area during a 25 year storm of 24 hour's duration so that such liquid shall not be able to spill onto or seep into the ground surrounding the impervious area. All storage facilities for liquid fuel must meet State regulations and statutes pertaining to underground and above ground storage.

Performance Standards for the Extraction of Water for Commercial and Industrial Purposes.

No permit for extraction of water for commercial or industrial purposes shall be issued until the Planning Board has made a positive finding that, with respect to the proposed use:

1. **The quantity of water to be taken from groundwater sources will not substantially lower the groundwater table, advance saltwater intrusion, cause unreasonable changes in groundwater flow patterns or cause unreasonable ground subsidence based on the conditions of a drought of three (3) consecutive months with a probability of occurrence of once in ten years.**
2. **The proposed use will not cause water pollution or other diminution of the quality of the aquifer from which the water is to be extracted.**
3. **Safe and healthful conditions will be maintained at all times within and about the proposed use.**
4. **The proposed use will not cause sedimentation or erosion.**

5. **The proposed use is not within the defined aquifer recharge area of a public water supply unless notice is given to the operator thereof and the Board has considered any information supplied by the operator of the public water supply and finds that no adverse effect on a public water supply will result.**
6. **The extractor will make monthly operating records of the quantity of water extracted, stored and removed from the site available to the Code Enforcement Officer or a designee.**

Section 17 - Definitions

Insert the following two definitions between "Water Crossing and Water Table – pg 67

Water Extraction for Commercial Purposes: ***Substantial (up to or over 122,000 gallons per month) extraction of water from the aquifer or bedrock fractures for use in the production of income from the buying and selling of goods and/or services, exclusive of rental or residential buildings and/or dwelling units.***

Water Extraction for Industrial Purposes: ***Substantial (up to or over 122,000 gallons per month) extraction of water from the aquifer or bedrock fractures for use in the assembling, fabrication, finishing, manufacturing, packaging or processing of goods or the extraction of minerals except when conducted as part of a home occupation or conducted wholly within an existing structure where no utility modifications are required, the operation has no more than three employees and utilizes no more than 2000 square feet of area.***